

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently amended) An array composition comprising:
 - a) a substrate with a surface; and
 - b) a population of microspheres comprising at least a first and a second microsphere,
wherein said first microsphere comprises a plurality of 10 to 10,000 ~~at least 100~~ different target analytes from a first individual, and
wherein said first microsphere further comprises a first identifier binding ligand that identifies said plurality of different target analytes ~~nucleic acid molecules~~ from said first individual,
wherein said second microsphere comprises a plurality of 10 to 10,000 ~~at least 100~~ different target analytes from a second individual, and
wherein said second microsphere further comprises a second, different identifier binding ligand that identifies said plurality of different target analytes ~~nucleic acid molecules~~ from said second individual;
wherein said population of microspheres are attached to about 1,000 to 1,000,000,000 discrete sites per cm² ~~distributed~~ on said surface.

Claims 2-3 (Canceled).

4. (Previously presented) The array composition according to claim 1, wherein said identifier binding ligands are nucleic acid molecules.

Claim 5 (Canceled).

6. (Previously presented) The array composition according to claim 42, wherein said nucleic acid molecules comprise genomic DNA.

Claim 7 (Canceled).

8. (Original) The array composition according to claim 1 wherein said substrate is a fiber optic substrate.

9. (Original) The array composition according to claim 1 wherein said substrate is plastic.

10. (Currently amended) The array composition according to claim 1 [[41]], wherein said discrete sites are wells.

Claims 11-13 (Canceled).

14. (Currently amended) The array composition according to claim 1 [[41]], wherein said population of microspheres are attached to surface ~~comprises~~ about 10,000 to 1,000,000,000 discrete sites per cm².

Claim 15 (Canceled).

16. (Previously presented) The array composition according to claim 1, wherein said plurality of different target analytes are covalently attached to said microspheres.

Claims 17-24 (Canceled).

25. (Currently amended) The array composition according to claim 1 [[41]], wherein said population of microspheres are attached to surface ~~comprises~~ about 100,000 to 10,000,000 discrete sites per cm².

26. (Currently amended) The array composition according to claim 1 [[41]], wherein said population of microspheres are attached to surface ~~comprises~~ 10,000,000 to 1,000,000,000 discrete sites per cm².

27. (Currently amended) The array composition according to claim 1 [[41]], wherein said population of microspheres are attached to surface ~~comprises~~ about 10,000 to 100,000 discrete sites per cm².

Claims 28-36 (Canceled).

37. (Currently amended) The array composition according to claim 1, wherein said plurality of different target analytes from said first individual comprises 100 to 1,000 ~~at least 1000~~ different target analytes, and said plurality of different target analytes from said second individual comprises 100 to 1,000 ~~at least 1000~~ different target analytes.

Claims 38-41 (Canceled).

42. (Previously presented) The array composition according to claim 1, wherein said target analytes are nucleic acid molecules.

43. (Previously presented) The array composition according to claim 42, wherein said nucleic acid molecules are single-stranded.

44. (Previously presented) The array composition according to claim 1 ~~[[41]]~~, wherein said microspheres are randomly distributed on said surface.

Claims 45-50 (Canceled).